

CLAIMS:

1. A gas discharge lamp with

- a discharge vessel (2),
- electrodes (4, 5) projecting into the discharge vessel (2),
- a translucent, electrically conductive screening (9, 23) which screens the discharge vessel (2) and comprises connection means (10, 11, 24, 27, 28) for providing an at least high-frequency connection between the screening (9, 23) and a screening (14, 17, 19) of an electrical system used for operating the gas discharge lamp (1) so as to form a coaxial screening system enclosing the discharge vessel (2) with the electrodes (4, 5) during operation of the gas discharge lamp (1).

2. A gas discharge lamp as claimed in claim 1, characterized in that the gas discharge lamp (1) comprises an outer bulb (8) surrounding the discharge vessel (2), and the screening (9) comprises a layer of conductive translucent material or a grid structure of conductive material arranged in or on a wall of the outer bulb (8).

3. A gas discharge lamp as claimed in claim 1 or 2, characterized in that the screening (9) has an at least high-frequency connection to the screening (14, 17, 19) of the electrical system used for operating the gas discharge lamp (1) in two mutually opposed locations of the gas discharge lamp (1) during operation thereof.

4. A gas discharge lamp as claimed in any one of the claims 1 to 3, characterized in that at least one of the electrodes (5) is electrically connected to a supply line (13) comprising a screening (14), and the screening (9) of the gas discharge lamp (1) is connected with electrical conduction to the screening (14) of said supply line (13).

5. A gas discharge lamp as claimed in any one of the claims 1 to 4, characterized by a supply line (25, 26) extending inside the screening (9) of the gas discharge lamp (1) and connected to one of the electrodes (5).

6. A gas discharge lamp as claimed in any one of the claims 1 to 5, characterized in that the screening (9, 23) of the gas discharge lamp (1) is connected with electrical conduction to a screening (17) of a lampholder during operation of the gas discharge lamp (1).

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7. A gas discharge lamp as claimed in any one of the claims 1 to 3, characterized in that the screening (9) of the gas discharge lamp (1) serves as a supply line and is electrically connected to one of the electrodes (5).

10 8. A gas discharge lamp as claimed in claim 7, characterized in that the electrode (5) is connected to a supply line (30) which is arranged in parallel to the screening (9) of the gas discharge lamp (1).

9. A gas discharge lamp as claimed in claim 8, characterized by an inductive element (31) included in the additional return line (30).

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10. A gas discharge lamp as claimed in any one of the claims 7 to 9, characterized in that the screening (9) of the gas discharge lamp (1) is coupled to a screening (17) of a lampholder via a capacitive component (28) during operation of the gas discharge lamp (1).

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11. A gas discharge lamp as claimed in any one of the claims 7 to 10, characterized in that the screening (9) of the gas discharge lamp (1) is connected to the other electrode (4) via a capacitive component (29).

25 12. A headlight or luminaire with a gas discharge lamp (1) as claimed in any one of the claims 1 to 11 and with an electrical system for operating the gas discharge lamp (1), which system has a screening (14, 17, 19), wherein the screening (9, 23) of the gas discharge lamp (1) is connected to the screening (14, 17, 19) of the electrical system at least as regards high frequencies so as to form a coaxial screening system enclosing the discharge vessel (2)

30 and its electrodes (4, 5).